Burkina Faso, 2000
Current Vulnerability Assessment

March 2000

Famine Early Warning System Project

U.S. Agency for International Development

Table of Contents

List of Abbreviations
Executive Summary
Country Reference Map

I. Introduction

II. National Food Security
- A. Domestic Food Availability
  - 1. Production
  - 2. Initial Stocks
- B. Domestic Utilization
  - 1. Food Use
    - a. Population
    - b. Consumption requirements
  - 2. Other Uses
  - 3. Closing Stocks
- C. Trade
  - 1. Projected Exports
  - 2. Projected Imports
  - 3. Projected Food Aid Imports
- D. National Cereal Balance
- E. Subnational Cereal Production – Implications for Cereal Flows and Prices
- F. Caveats and Uncertainties
  - 1. Caveats
  - 2. Uncertainties

III. Household Food Security
- A. Objective of the Analysis
- B. Conceptual Approach
- C. Methodology
  - 1. The Parameters of the Analysis
    - a. Time period
    - b. Level of analysis
    - c. Socioeconomic groups
  - 2. General Approach to Assessing Household Food Access at the Province Level
    - a. Rural farming and pastoralist populations
    - b. Urban populations
- D. Current Food Security Status
  - 1. Populations in Extremely Food Insecure Areas
  - 2. Populations in Highly Food Insecure Areas
  - 3. Populations in Moderately Food Insecure Areas

4. Populations in Food Secure Areas
E. Caveats and Uncertainties
1. Caveats
2. Uncertainties

IV. Conclusions and Actions
A. Summary of Food Insecurity (2000)
B. Actions Taken or Required

V. Appendices
A. Final Food Balance (1998/99)
B. Summary Analysis (Household Food) Access Tables

List of Abbreviations

CONSUR	Comité National de Secours d'Urgence et de Réhabilitation (National Agency for Emergency Food Assistance and Rehabilitation)
CRS	Catholic Relief Services
CRSPC	Comité de Réflexion et de Suivi de la Politique Céréalière (National Food Security Board)
CT/CCI	Cellule Technique du Comité de Coordination de l'Information (Technical Unit of the Information Coordinating Committee)
INSD	Institut National des Statistiques et de la Demographie (National Office of Statistics and Demography)
SIM	Système d'Information sur le Marché (Market Information System)
SONAGESS	Société Nationale de Gestion des Stocks de Sécurité (National Office for Managing Security Stocks)
SSA	Service des Statistiques Agricoles (Agricultural Statistics Service)
WFP	World Food Programme

Executive Summary

This current vulnerability assessment (CVA) considers the ability of populations in Burkina Faso to meet their food needs between November 1999 and October 2000.

The 1999/2000 agricultural season was favorable for crop and pasture production across much of the country. Estimated gross national cereal production of almost 2.7 million MT is a new record, exceeding last year's level by 2 percent and the 1994/95-1998/99 average by 13 percent. National availability from production and net stocks exceeds needs by more than 200,000 MT. When projected net imports are added, the final cereal balance for 1999/2000 shows a net surplus of over 440,000 MT. The surplus should keep cereal prices at low levels for a second consecutive year.

The FEWS 1999/2000 CVA considered the capacity of farmers, agropastoralists, pastoralists and the urban poor to gain access to available food supplies. Two consecutive years of relatively good food and cash crop production have bolstered household food access from own production for most farmers and agropastoralists. Excellent pasture conditions have increased herd productivity, and high cereal-to-livestock terms of trade are facilitating easy market access for agropastoralists and pastoralists. Farmers in important cotton-producing Provinces saw their income from cotton decline from the high levels of the past 2 years because of lower cotton prices and production; however, these Provinces are generally surplus in cereal production, and this year is no exception. Low food prices in 1999 have eased food access of the urban poor, and expected low prices this year should bolster their purchasing power. All of these factors have contributed to improved food access for most rural and urban populations, leaving average households food secure in 19 of Burkina's 30 Provinces.

However, in the central Provinces of Boulkiemé, Sanguié and Sanmatenga, below-average cereal production over the past 2 to 3 years has reduced farm households' main source of food access. Contributions to income from livestock and cash

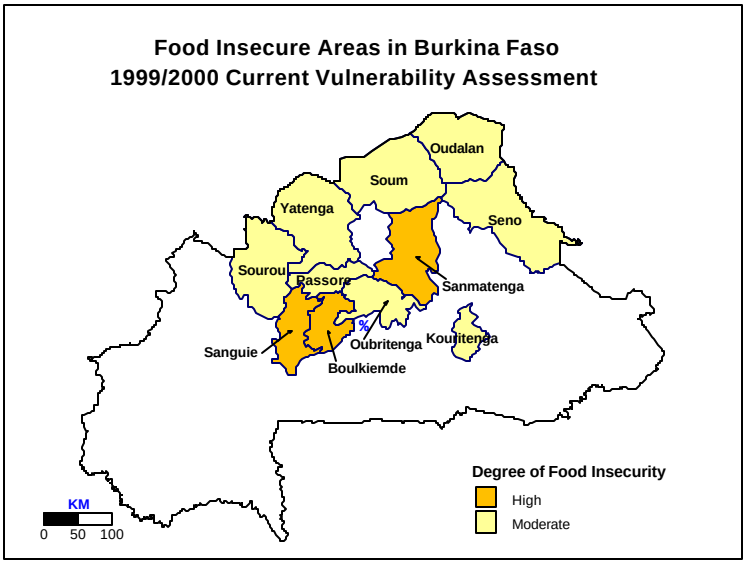


Figure 1
Source FEWS

crops are limited except in Sanmatenga, where cowpeas are an important cash crop. In 1998/99, Sanguié was considered highly food insecure and Boulkiemdé and Sanmatenga moderately food insecure. Low cereal prices over the course of 1999 helped households acquire food from the market, but they drew heavily on assets and intensified secondary income activities to finance these purchases. This year poor crop production in these three Provinces has heightened their food insecurity. All 3 are considered highly food insecure (figure 1).

In another 8 Provinces in the north and center (Kouritenga, Oubritenga, Oudalan, Passoré, Séno, Soum, Sourou and Yatenga), estimated cereal production was below average (except for Passoré) and insufficient to cover Province-level consumption needs. In Passoré, estimated production was above average, but field reports suggest that the estimates are overly optimistic. All of these Provinces were found to be moderately food insecure in 1998/99. The Provinces of Oudalan, Séno and Soum suffered the largest production shortfalls relative to average this year: –26, –33, and –24 percent, respectively. However most households in these Provinces are agropastoralists and can take advantage of good pastures and favorable livestock-to-cereal terms of trade to compensate for lost crop production. In Kouritenga, Oubritenga, Passoré, Sourou and Yatenga Provinces, farm households have limited alternative sources of income. They have depleted assets and relied heavily on coping activities over the past couple of years. However, expected low cereal prices are likely to make market food supplies relatively affordable and favorable conditions for off-season gardening will provide income and food. Farmers and agropastoralists in all 8 Provinces are considered moderately food insecure.

Currently, no specific interventions have been planned to respond to food needs in the highly food-insecure Provinces of Boulkiemdé, Sanguié or Sanmatenga. However, the Government is encouraging populations in these localities to take advantage of water availability to intensify livestock and off-season gardening and cropping activities.

Over the course of the consumption year, FEWS will be involved in the following activities to monitor the evolving food security situation and plan interventions, if necessary:

- Undertaking field trips/visits to update the food insecurity situation of the population groups identified as highly or moderately food insecure;
- Assisting to determine type, amount, and frequency of food assistance needed, if any, in concerned Provinces or localities.

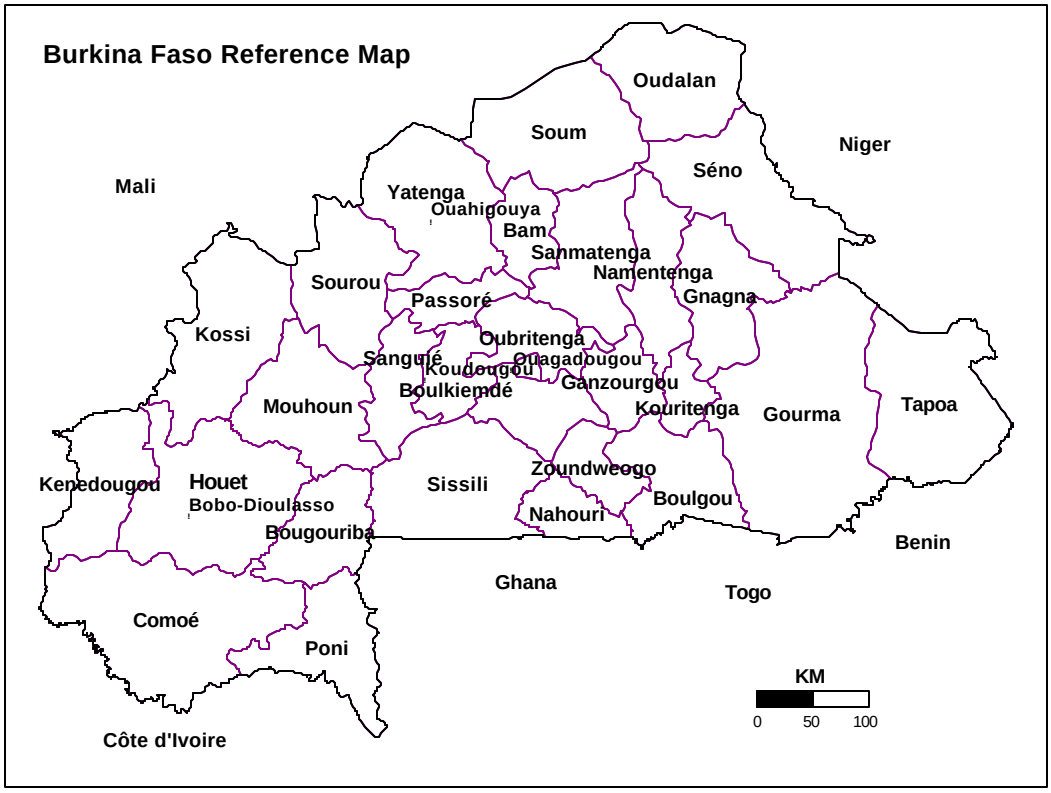

Burkina Faso Reference Map
Oudalan
Soum
Niger
Séno
Mali
Yatenga
Ouahigouya
Bam
Sanmatenga
Namentenga
Sourou
Gnagna
Passoré
Kossi
Oubritenga
Sanguié
Ouagadougou
Koudougou
Ganzourgou
Boulkiemdé
Mouhoun
Kouritenga
Gourma
Tapoa
Zoundweogo
Kenedougou
Houet
Sissili
Boulgou
Bobo-Dioulasso
Nahouri
Bougouriba
Benin
Ghana
Togo
Comoé
Poni
KM
0
50
100
Côte d'Ivoire

Figure 2

I. Introduction

This Current Vulnerability Assessment (CVA) focuses on current or transitory food insecurity (see Key Terms box) for both Burkina as a whole and for specific populations within the country.

For the current consumption period (November 1, 1999 to October 31, 2000), it:

- evaluates whether there will be enough food available at the national level to meet the consumption needs of the entire population;
- identifies Provinces where the 'average' household is likely to be food insecure;
- describes the extent to which households in these Provinces are food insecure using FEWS categories of food insecurity (see FEWS Categories of Food Insecurity box);
- evaluates the impact of potential shocks to food security in the current consumption period;
- provides a basis for determining where concerted monitoring and possible interventions (including emergency food aid) may be needed; and
- summarizes the actions that are being taken or need to be taken to respond to any food emergencies.

Key Terms

Food Security is a condition in which a population has physical, social and economic access to sufficient safe and nutritious food over a given period to meet dietary needs and preferences for an active life. A food-secure population can meet its consumption needs during the given consumption period by using strategies that do not compromise future food security.

> **Food Availability** is a measure of the food that is, and will be, physically available in the relevant vicinity of a population during the given consumption period through a combination of domestic production, stocks, trade and transfers.
>
> **Food Access** is a measure of the population's ability to acquire available food during the given consumption period through a combination of its own production and stocks, market transactions or transfers.
>
> **Food Utilization** is a measure of whether a population will be able to derive sufficient nutrition during the given consumption period from available and accessible food to meet its dietary needs.

Food Insecurity is the inverse of food security: a condition in which a population does not have access to sufficient safe and nutritious food over a given period to meet dietary needs and preferences for an active life. Possible causes are insufficient food availability, insufficient food access and inadequate food utilization.

> **Current (or transitory) food insecurity** occurs when a population suffers a temporary decline in consumption. Current food insecurity can result from instability in food production, food prices, household incomes, or health conditions.
>
> **Chronic (or long-term) food insecurity** occurs when a population has continuously inadequate consumption. Chronic food insecurity arises from conditions of poor food production, limited incomes, and poor health.

II. National Food Security

A. Domestic Food Availability

There are two main components of domestic food availability: food production and food stocks.

1. Production

National cereal crop production this year rose by 2 percent and 13 percent compared to last year and the previous five-year average (1994/95-1998/99), respectively (table 1). Cereals that performed best include millet and maize, for which production increased 20 percent and 46 percent, respectively, compared to average. With regard to non-cereal crops (table 2), peanut and soybean production increased significantly compared to last year and to average. While cowpea and sesame production declined slightly compared to 1998/99 production, production was still significantly higher than the recent average. Cotton was the only crop that suffered a large production shortfall (-21 percent) compared to last year, but production was still close to average.

Table 1. Burkina Faso - Comparison of 1999/2000 final gross cereal production estimates with 1998/99 and the 5-year average

Season	Cereal					
	Millet	Sorghum	Maize	Rice	Fonio	Total
1999/00 (MT)	945,000	1,178,400	468,900	94,200	13,300	2,699,900
1998/99 (MT)	972,800	1,202,800	377,800	89,000	14,400	2,656,800
Average (MT)	790,700	1,179,600	320,100	87,100	12,800	2,390,300
% Difference 1999/00 vs 1998/99	-3	-2	24	6	-8	2
% Difference 1999/00 vs Average[1]	20	0	46	8	4	13

Source: Ministry of Agriculture, CT/CCI—February, 2000

Thus, on the whole, 1999/2000 crop production was better than last year and average for most crops. Considering that last year (1998/99) was a good harvest year with no major food insecurity, the net improved crop performance that was observed again during this season should accordingly pave the way for higher food availability than usual at the national level.

Table 2. Burkina Faso - Comparison of 1999/2000 non-cereal crop production with 1998/99 and the 5-year average

Commodity	Cotton	Cowpeas	Peanut	Sesame	Soybean
1999/2000 (MT)	257,121	309,464	276,755	12,600	4,174
1998/99 (MT)	324,558	337,104	214,805	12,993	3,450
Average (MT)	248,810	204,115	187,610	7,489	2,922
% Difference 1999/00 vs 1998/99	-21	-8	+29	-3	+21
% Difference 1999/00 vs Average	+3	+52	+48	+68	+43

Source: Ministry of Agriculture, CT/CCI

2. Initial Stocks

The level of initial stocks was quite good, largely due to the excellent harvest enjoyed by most farmers during 1998/99. As of November 1, 1999, there was an overall food stock of about 125,000 MT (table 3) compared to 40,000 MT in 1998/99 (Appendix A). Stocks of traditional cereals (millet, sorghum, maize, fonio) were estimated at 109,300 MT this year compared to only 17,940 MT in 1998/99. In early February, experts from the CRSPC (National Food Security Board) reported that the National Food Security Stocks being held at SONAGESS stood at 30,850 MT—essentially at the target level for Burkina. In addition to the physical stock, SONAGESS has financial fund equivalent to another 30,000 MT.

B. Domestic Utilization

Food requirements for the year include food use, feed and seed requirements, and final or closing stocks.

1. Food Use

a. Population
The Ministry of Agriculture estimated the country's mid-2000 population at 11,246,309 people. The population is derived from the 1985 census using a 2.6 growth rate.

b. Consumption Requirements
The national cereal consumption requirement is calculated using an average annual per capita consumption requirement of 190 kg for all cereals combined (millet, sorghum, maize, rice, and fonio). This consumption norm reflects the fact that in Burkina at least 70 percent of the population's diet is made up of cereals. This is a national-level average. At the subnational level, there are important regional variations in diet. In the southern Provinces of Nahouri, Sissili, and Boulgou, populations produce and consume tubers and therefore consume less cereals than the 190-kg average. In the northern Sahelian Provinces, cereals

constitute the main staple and populations consume more cereals than the 190-kg average.

2. Other Uses

In Burkina Faso, staple cereals are essentially destined for human consumption. Nevertheless, seed and harvesting/storage losses are accounted for in converting from gross to net production. For traditional cereals and wheat, losses are calculated at a rate of 15 percent. For rice (paddy), losses are calculated at a rate of 35 percent to account for hulling, in addition to the usual harvesting and storage losses. There is no allocation *per se* for animal feeding or industrial processing (breweries) as might the case in the other countries.

3. Closing Stocks

Closing stocks for this year were projected at 46,539 MT. This level is comparable to the 44,846 MT estimated for 1998/99. Yet given the excellent cereal harvests this year and last year, projected closing stocks appear to be somewhat underestimated.

C. Trade

1. Projected Exports

Traditionally, cereal trade takes place informally between traders in Burkina Faso and their counterparts across the border. In general, cereal exports between Burkina Faso and neighboring countries (Mali and Niger in particular) tend to occur in years when Burkina Faso has a production surplus. Conversely, significant cereal imports from the same neighboring countries are normally observed when Burkina Faso has a production deficit. Considering that Mali and Niger are also enjoying excellent cereal harvests this year, no significant cereal exports are expected to occur during the 1999/2000 consumption period.

With regard to non-cereal commodities, cowpeas are increasingly being exported from Burkina Faso toward the coastal countries, such as Ghana and Ivory Coast. Unfortunately, due to lack of reliable data, no precise accounting can be made for such transactions.

2. Projected Imports

Projected commercial imports are estimated at 190,320 MT for the current consumption year (table 3). Out of this, rice and wheat account for a total of 187,388 MT versus 2,932 MT for traditional cereals. According to the Ministry of Agriculture, traditional cereal imports are primarily in the form of maize grain and flour, which are used by some industries (breweries) and urban consumers. However, there have been reports of significant flows of cereals from Mali to

Burkina Faso in late 1999 and early 2000. The imports are being driven by a significant price differential between eastern markets in Mali (in the rich cereal-producing Séno Plain) and markets in Burkina Faso (figure 3). Harvest-period millet prices (October to December) were between 50 and 75 FCFA/kg in the Mali border markets but ran between 75 and 100 FCFA/kg at border reference markets in Burkina Faso.

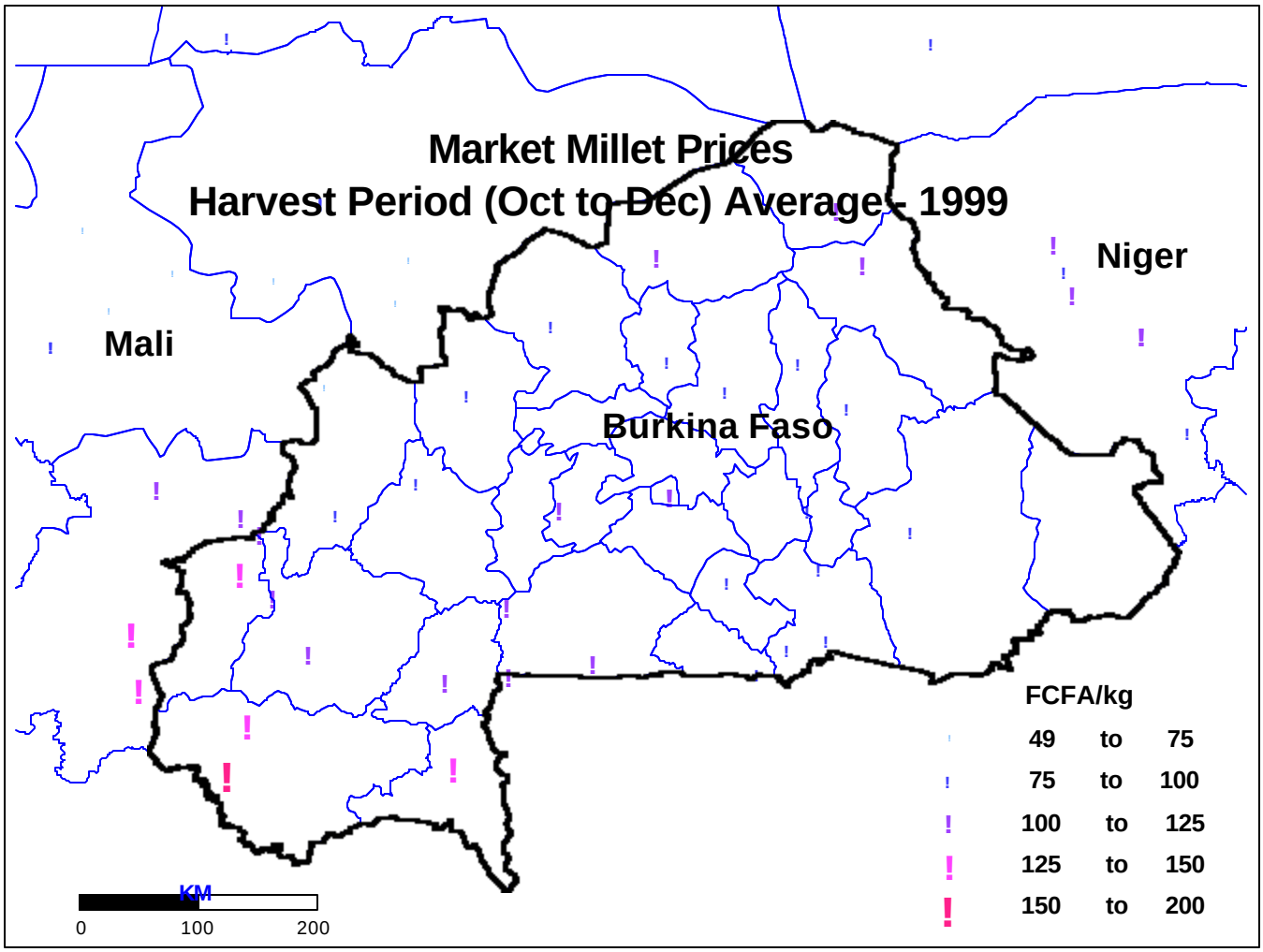


Figure 3
National Market Information Systems (SIMs)

3. Projected Food Aid Imports

Projected food aid imports for 1999/2000 were estimated at 42,522 MT. This includes 28,671 MT of combined rice and wheat for CRS/Cathwel and 13,851 MT of traditional cereal for WFP (table 3). In addition, SONAGESS announced in early February that the Japanese Government is providing 7,500 MT of food aid

rice. These food aid rice imports are not reflected in the cereal balance sheet, however, since the information became available after the cereal balance sheet was released. This year's level of food aid imports is almost 15,000 MT higher than the 27,687 MT of food aid imports recorded in 1998/99. Most of this food aid is destined for school feeding programs and food-for-work development programs.

D. National Cereal Balance

The situation relative to national cereal balance is shown in Table 3. At the national level, available cereals from production and initial stocks were estimated at 2,391,573 MT. With a population of 11,246,309 and a per capita requirement of 190 kg per year, national cereal needs, including projected final stocks of around 45,000 MT, amount to 2,183,338 MT. National availability from production and stocks exceed needs by more than 200,000 MT. When projected net imports are added, the final cereal balance for 1999/2000 shows a net surplus of over 440,000 MT. The surplus should keep cereal prices at low levels for a second consecutive year. Low harvest period millet prices at almost all markets (figure 4) corroborate the good supply situation.

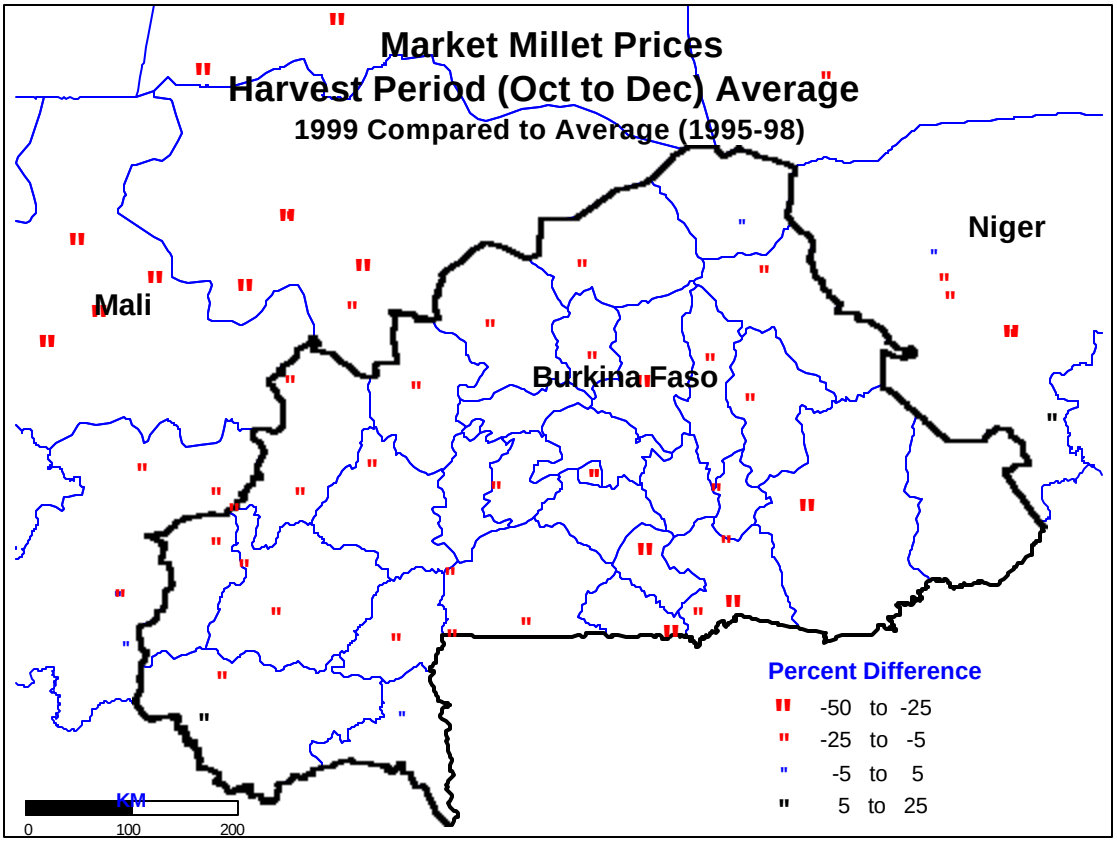


Figure 4
Source: Market Information Systems (SIMs)

Table 3. Final Cereal Balance for 1999/2000

	Rice (MT)	Wheat (MT)	Traditional cereals: Millet, Sorghum, Maize, Fonio (MT)	Total (MT)
POPULATION THROUGH 04/30/2000	-----	----	----	11,246,309
I. AVAILABILITY (MT)	61,565	5,883	2,324,125	2,391,573
Production				
-Gross Production	94,209	0	2,605,677	2,699,886
-Net Production	51,815	0	2,214,825	2,266,640
Initial Stocks as of 11/1/99 (MT)	9,750	5,883	109,300	124,933
-Farmer	0	0	69,880	69,880
-Other	9,750	5,883	39,420	55,053
+CONASUR	0	0	0	0
+SONAGESS	0	0	30,850	30,850
+CGP	8,072	0	0	8,072
+CATHWEL	0	5,883	120	6,003
+PAM	1,678	0	8,450	10,128
II. NEEDS (MT)	183,308	78,303	1,921,727	2,183,338
Consumption Standard (kg/person/year)	16.2	6.9	166.9	190
Human Consumption (MT)	182,190	77,600	1,877,009	2,136,799
Final Stocks (MT)	1,118	703	44,718	46,539
-Farmer	0	0	0	0
-Other	1,118	703	44,718	46,539
+CONASUR	0	0	0	0
+SONAGESS	0	0	35,000	35,000
+CGP	0	0	0	0
+CATHWEL	0	703	0	703
+PAM	1,118	0	9,718	10,836
+GMB	0	0	0	0
III. GROSS SURPLUS (+) or DEFICIT (-) (MT)	-121,743	-72,420	402,398	208,236
IV IMPORTS/EXPORTS (MT)	135,309	80,750	16,783	232,842
-Projected Commercial Imports (MT)	127,569	59,819	2,932	190,320
+CGP	37,500	0	0	37,500
+GMB	0	50,000	0	50,000
+Private Traders	90,069	9,819	2,932	102,820
-Projected Food Aid Imports	7,740	20,931	13,851	42,522
+SONAGESS	0	0	0	0
+CATHWEL	7,740	20,931	0	28,671
+PAM	0	0	13,851	13,851
-Projected Exports	0	0	0	0
V. NET SURPLUS (+) or DEFICIT (-) (MT)	13,566	8,330	419,181	441,078
VI. PER CAPITA CEREAL AVAILABILITY (kg/person/year)	17.5	7.7	208.1	233.4

Source: Ministry of Agriculture, CT/CCI, February 2000

E. Subnational Cereal Production – Implications for Cereal Flows and Prices

With an estimated national cereal surplus of more than 400,000 MT, cereal supplies surpass consumption needs in 1999/2000. At the subnational level, the magnitude of cereal flows depends on the local supply and the level of effective demand. If important supply areas have had a poor year, the surplus available for redistribution through the market system is reduced. If local production is very poor in deficit areas, this increases potential demand, but the effect on cereal flow will depend on the level of effective demand – i.e., purchasing power. This section considers the likely changes in cereal flows and prices resulting from deviations from average in this year's Province-level production.

Of the 29 cereal-producing Provinces that make up the country[1], on average (1994/95-1998/99) 11 are deficit in cereal production (table 4). The remaining 18 produce more than 100 percent of their cereal consumption needs. The cereal powerhouses of the country are located in the west (Kossi, Kenedougou, Mouhoun, Poni, and Sissili) and east (Gnagna and Tapoa), with each Province producing an average surplus[2] of over 20,000 MT.

This year, in the west the size of the surplus fell relative to average in Kossi and Sissili, but it increased significantly in Kenedougou, Mouhoun, and Poni. Thus, overall supply levels in the west are higher than average, promising adequate supplies for deficit zones that normally rely on the western Provinces for supply. In the east, the size of Gnagna's surplus is about average. Tapoa's surplus is smaller than average, but it is not a major source of supply for other Provinces.

The only Provinces that have significantly larger than average production deficits this year are Boulkiemdé, Séno, and Soum, where the deficit is more than double the average. Oudalan, which normally is self-sufficient in cereals, has a deficit of more than 5,000 MT this year. In Oudalan, Séno, and Soum, wild fonio production, which is not accounted for in official production statistics, was excellent this year. This, along with relatively good supply in bordering Provinces should bolster supply there. Boulkiemdé is in close proximity to the major cereal powerhouses, so cereal supply should not be a problem.

Given the good national supply situation and the good supply situation in areas whose surplus is marketed in Provinces that are experiencing larger than average production deficits, no Provinces are likely to experience cereal supply problems in 2000.

[1] Currently, there are actually 45 administrative units or Provinces in the country. Nevertheless, due to lack of resources and personnel for covering the recently created units, the Ministry of Agriculture still prefers to report its agricultural production data based on the 30 administrative units. Kadiogo Province, which includes the capital city Ouagadougou, is 1 of the 30 administrative units but it is not a cereal-producing Province.

[2] The Province production balance is calculated using a national-level annual cereal consumption standard of 190 kg per person.

Table 4: Provincial Cereal Production Balances

Region	Province	Average Net Production (kg/cap)	1999 Net Production (kg/cap)	1999 vs Average Net Production (% difference)	Average Production Balance (MT)	1999 Production Balance (MT)
CENTER	GANZOURGOU	197	234	19	1,983	12,073
CENTER	KADIOGO	3	3	-14	-173,588	-184,979
CENTER	OUBRITENGA	160	179	12	-10,857	-3,985
CENTER-EAST	BOULGOU	186	230	24	-2,161	23,991
CENTER-EAST	KOURITENGA	186	184	-1	-1,207	-1,600
CENTER-NORTH	BAM	183	215	18	-1,349	4,896
CENTER-NORTH	NAMENTENGA	212	218	3	5,253	6,825
CENTER-NORTH	SANMATENGA	156	152	-2	-15,217	-17,879
CENTER-SOUTH	BAZEGA	171	213	25	-7,908	10,009
CENTER-SOUTH	NAHOURI	113	97	-14	-10,483	-13,317
CENTER-SOUTH	ZOUNDWEOGO	230	255	11	7,888	13,758
CENTER-WEST	BOULKIEMDE	127	71	-44	-27,065	-53,998
CENTER-WEST	SANGUIE	169	171	1	-5,456	-5,013
CENTER-WEST	SISSILI	246	280	14	20,250	34,828
COMOE	COMOE	194	218	12	1,488	10,389
EAST	GNAGNA	264	257	-3	24,322	23,003
EAST	GOURMA	204	226	11	6,176	16,595
EAST	TAPOA	306	249	-19	25,593	13,973
HAUTS BASSINS	HOUET	188	212	12	-1,547	20,357
HAUTS BASSINS	KENEDOUGOU	302	395	31	21,233	40,862
MOUHOUN	KOSSI	359	313	-13	77,041	59,928
MOUHOUN	MOUHOUN	275	352	28	32,435	64,856
MOUHOUN	SOUROU	199	182	-8	3,329	-3,034
NORTH	PASSORE	145	183	26	-10,956	-1,891
NORTH	YATENGA	168	190	14	-12,722	161
SAHEL	OUDALAN	190	153	-19	57	-5,600
SAHEL	SENO	165	124	-25	-8,249	-22,333
SAHEL	SOUM	166	136	-18	-6,166	-14,622
SOUTHWEST	BOUGOURIBA	258	232	-10	18,191	11,840
SOUTHWEST	PONI	251	407	62	17,701	66,621
BURKINA					-31,990	106,711

Source: Ministry of Agriculture/ Department of Agricultural Statistics
Note: ‘Cereal production balance’ in this table refers to the difference between local consumption needs and local production. It does not take into account stocks or imports or exports.

F. Caveats and Uncertainties

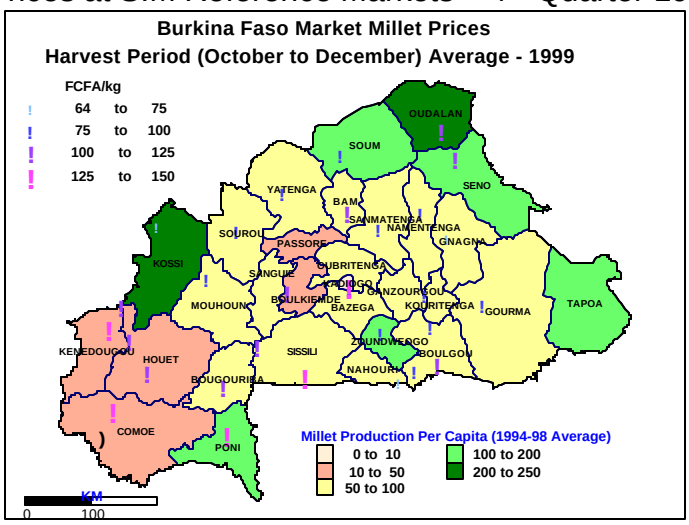
1. Caveats

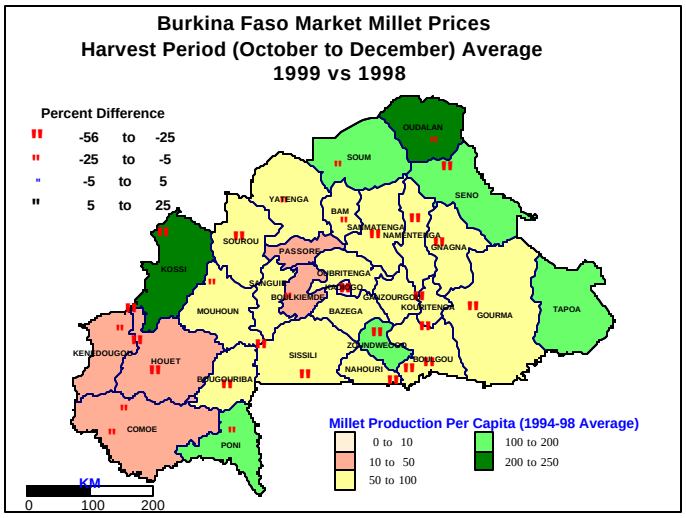
The cereal balance sheet does not take into consideration the contributions from wild fonio or non-cereal food crops, such as cowpea, voandzu, sesame, peanut and tubers. Yet these commodities tend to play a major complementary role in terms of food security in several localities. In the future, it might be beneficial to include these foods so as to have a more accurate accounting of food availability and needs rather than just cereal availability and needs.

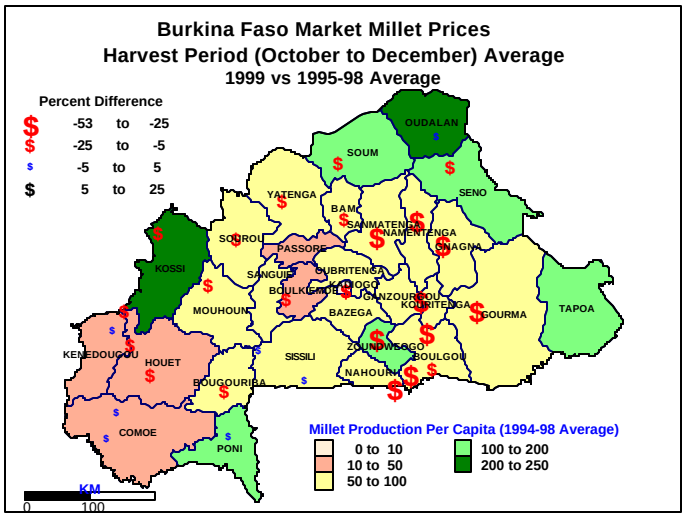
2. Uncertainties

Since this analysis relies heavily on cereal production estimates, it is important to evaluate indicators that corroborate the production estimates. This year, the analysis of prices collected from major reference markets seems to tally well with most trends observed with the production data. With respect to millet for instance, it can be observed that prices were quite affordable and well below average in most localities. Millet prices in major millet-producing zones were well below average during the harvest period (figure 5). Field visits in early February 2000, along with regular price monitoring, continue to show low cereal prices relative to average.

Figure 5: Millet Prices at SIM Reference Markets – 4th Quarter 1999







Source: Burkina Faso Market Information System (SIM)

III. Household Food Security

A. Objective of the Analysis

The objective of the analysis of food security at the household level is to:

- identify Provinces where the 'average' household is likely to be food insecure;
- describe the extent to which households in these Provinces are food insecure (see FEWS Food Security Categories box);
- evaluate the impact of potential shocks to food security in the current consumption period; and
- provide a basis for determining where concerted monitoring and possible interventions, including emergency food aid, may be needed.

FEWS Categories of Food Insecurity

In Current Vulnerability Assessments, FEWS classifies areas or specific socio-economic groups within areas as food secure or food insecure. In food-secure areas, an average household can maintain normal seasonal consumption patterns during the given consumption period using income derived from strategies that do not compromise future food security. In food-insecure areas, this is not the case.

To assist decision-makers in prioritizing emergency food allocations within and between countries, FEWS classifies food-insecure populations using the following operational definitions:

- Moderately food-insecure populations can meet their consumption needs during the given consumption period only by intensifying their normal coping strategies. These households are vulnerable to any subsequent shock, either in the given or subsequent consumption period.
- Highly food-insecure populations will not be able to meet their consumption needs during the given consumption period. They will be forced to reduce consumption and dispose of their productive assets, thereby undermining their future food security.
- Extremely food-insecure populations are now, or will soon be, unable to meet their consumption needs. They have already exhausted their strategies for acquiring food and are currently destitute.

Although the CVA assigns a food security status to each socio-economic group at the administrative level that constitutes the unit of analysis, it cannot quantify the number of food-insecure people. Rather, the CVA applies a food security classification to an "average" member of the area or group, the entire population of which can be counted. The larger the area and the more heterogeneous the group, the more likely it is that food security levels will vary among households within the group. Detailed food needs assessments are required to identify the precise numbers of affected people and appropriate interventions.

B. Conceptual Approach

FEWS defines food security as the condition in which a population has physical, social and economic access to sufficient safe and nutritious food over a given period to meet dietary needs and preferences for an active life (see Key Terms box). Embodied in this definition is the important concept that food security is more than food self-sufficiency. As the work of Nobel Prize winner Amartya Sen on entitlements underscores, even if adequate food supplies are available, a household's access to that food depends on its income-earning strategies, assets and coping behaviors. Thus a population's food security goes beyond aggregate food availability to include an assessment of how much food people can access directly through their own production or indirectly through market and other transactions. A population's food security also depends on its ability to properly utilize food. Individual health and nutritional conditions, as well as food care practices, determine whether available, accessible food can provide nutritional value to the individuals consuming it. Using quantitative and qualitative information, FEWS pulls together information on each of these three pillars of food security – availability, access and utilization – to determine whether households will be able to meet their consumption requirements in a given period.

C. Methodology

1. The Parameters for the Analysis

a. Time period

This CVA considers the ability of populations in Burkina Faso to meet their food needs between November 1999 and October 2000 (the 1999/2000 consumption year). It analyzes the outcome of the 1999 rainfed growing season, which extends from April of 1999 to October of 1999. It also considers contributions from off-season crops produced during the dry season (November 1999 to April 2000).

b. Level of analysis

Although the conceptual framework is based on the household, the CVA groups households into representative populations to facilitate the analysis and improve targeting of relief interventions. These populations are defined in terms of their location (administrative unit) and way of accessing food (food economy or livelihood system). This analysis takes the Province, that is the second order administrative unit, as the unit for analysis. This is done for two reasons: Province-level data are generally available (unlike household data) and emergency responses to food insecurity and mitigation efforts focus on administrative units rather than households. In focusing on the Province, CVA conclusions apply to an 'average' household in the Province, but do not necessarily hold for the poorest and richest households within that Province.

c. Socio-economic Groups

This CVA considers current food access of farmers[3], agro-pastoralists, pastoralists (or nomads), and the urban poor.

- Farmers are defined as individuals, population groups or households who primarily depend on agricultural production for their livelihood or major source of income. In other words, at least 90 percent of their income is primarily derived from agricultural activities.
- Agro-pastoralists refer to those individuals, population groups, or households who primarily depend more on livestock raising (at least 60 percent) than on agriculture (less or equal to 40 percent) for their livelihood and major source of income.
- Pastoralists or nomads refer to individuals, population groups or households who almost entirely depend on livestock raising activities (at least (90 percent) for their livelihood or major source of income.
- The urban poor earn income through petty commerce, occasional wage labor and artisanal activities.

2. General Approach to Assessing Household Food Access at the Province Level

a. Rural farming and pastoralist populations

All rural farming and pastoralist households derive some of their food access directly through food and livestock production or though fishing and wild food gathering. They also obtain some indirectly through market food purchases or gifts. Market purchases are paid for through crop and livestock sales and other income-generating activities.

The annual ebb and flow of crop and pasture production are key factors that affect the ability of rural households to meet their food needs. If crop and/or pasture conditions are poor in the current year, the extent to which populations can cope with the situation largely depends on whether they have alternative sources of income, whether they have had good or bad crop/livestock production over the past couple of years; and market food availability and prices.

Thus to monitor current year household food access at the Province level, it is important to understand the relative importance of the various income sources for each socioeconomic group, to assess current performance of each source, to analyze likely hungry period price movements, and to assess coping ability if total income is below average.

[3] Throughout this report, farmers are defined as individuals, population groups or households who primarily depend on agricultural production for their livelihood or major source of income. In other words, at least 90 percent of their income is primarily derived from agricultural activities. Likewise, agro-pastoralists refer to those individuals, population groups, or households who primarily depend more on livestock raising (at least 60 percent) than on agriculture (less or equal to 40 percent) for their livelihood and major source of income. Finally, pastoralists or nomads refer to individuals, population groups or households who almost entirely depend on livestock raising activities (at least (90 percent) for their livelihood or major source of income.

FEWS analyzes Province-level cereal production data to quantify one of the most important direct sources of food access. It then uses qualitative information to assess the current performance of other sources of rural household income.

Hungry period food prices for the just completed growing period are analyzed to give an indication of household stock levels and coping ability. If prices remained low during the hungry period, this indicates that farm households have relied predominantly on household stocks to meet their food needs rather than market purchases. While this does not necessarily mean that households will have carry over stocks from the previous harvest at the end of the hungry period, it does indicate that they have had to draw less on savings and coping activities to meet food needs in the past year. This can imply that they are in a good position to cope with at least small current-year income declines.

Analysis of harvest-period food and cash crop prices provides information about revenue streams from current production. Changes in revenue streams from cash crops often determine whether farmers will have to sell more cereals than usual. Also, since many farmers sell much of their 'surplus' food production right after harvest, low harvest-period prices mean that the average farmer sells more of his/her food harvest to obtain cash to cover non-food needs, which in turn limits household food availability and access during the next hungry period. Lack of livestock and fish price data prevents comprehensive analysis of these important revenue sources; however, available anecdotal information on these revenue sources is used where possible. For example, information about animal diseases and animal conditions is used to infer the direction and magnitude of changes in pastoralist or agropastoralist income from animal offtake.

Analysis of national food availability and subnational food production provides information about likely food flows and price movements during the upcoming hungry period and the impact on market purchasing power.

FEWS Burkina relies on the previous year's CVAs to assess coping ability. If populations were food secure in the previous year, they are more likely to be able to cope with a negative shock to this year's income. If they were already food insecure coming into this year, their coping ability has already been taxed.

b. Urban populations

Urban populations purchase the majority of their food on the market. They earn income through petty commerce, occasional wage labor and artisanal activities. A small minority are employed as soldiers, civil servants, and private-sector employees. There is a very little information on these revenue streams. Under these circumstances, FEWS/Burkina relies largely on an analysis of current and projected prices to assess current year food access and food security status of urban populations.

D. Current Food Security Status

1. Populations in Extremely Food Insecure Areas

Extremely food-insecure populations are those households or population groups that currently are or soon will be unable to meet their consumption needs. In other words, people or households in this category are practically destitute and have no other coping mechanisms or strategies for acquiring adequate food to meet their needs.

Based on food availability and access conditions, it appears that this year there are no areas with socio-economic groups classified as extremely food insecure. This basically stems from the fact that relatively good crop performance and harvests have prevailed during the past two years in Burkina Faso. As a result, both relatively favorable food availability and access conditions have consistently prevailed during these past two years. Indeed, between January 1999 and February 2000, findings from routine FEWS monitoring showed that most households or population groups in the country have benefited from adequate cereal supplies at affordable prices. Likewise, livestock income in most localities has been quite satisfactory. All these conditions explain why no major food insecurity was reported in any parts of the country since the start of the rainfed harvest (September 1999).

However, the particular situation of the 12,000 Burkinabe refugees who arrived last November (1999) in Poni, following land disputes with the local populations in Tabou, Côte d'Ivoire, is worth noting. For this particular group, food security conditions indeed have been rather harsh and precarious. Most people concerned arrived in Burkina Faso with no assets or belongings, such as food, clothing, money, or jewelry. Their fate so far has been dependant on the goodwill of local populations as well as any support being made available to them through the government and the donor community (NGOs and development partners). Their food security situation remains tenuous. Thus, while not specifically considered in this CVA, they deserve special mention.

2. Populations in Highly Food Insecure Areas

Highly food-insecure populations are those households or populations groups that will not be able to meet their consumption needs during the given consumption period. As a result, these households or population groups will be forced to reduce consumption and dispose of their productive assets, hence undermining their future food security.

On the basis of these considerations, this CVA revealed that three Provinces fall in this category: Sanmantenga, Sanguié, and Boulkiemdé (figure 6). Indeed, in terms of direct access to cereals from own cereal production, the average farm household in Sanmantenga met 79 percent of consumption needs; in Sanguié 88 percent; and in Boulikemde 51 percent. Compared to average, cereal production this year declined by 16 percent, 13 percent, and 55 percent in those Provinces, respectively. The implication here is that none of these Provinces can meet, based on these local production figures, all the food consumption needs of the concerned population groups or households. Consequently, additional cereal supplies must be obtained either from local market transfers or via cross-border imports. But, assuming the supplies are available, the remaining problem would be to know whether the population groups or households are able to afford adequate cereals to meet their needs. In order to answer this question, the food access conditions in each of these Provinces are reviewed below.

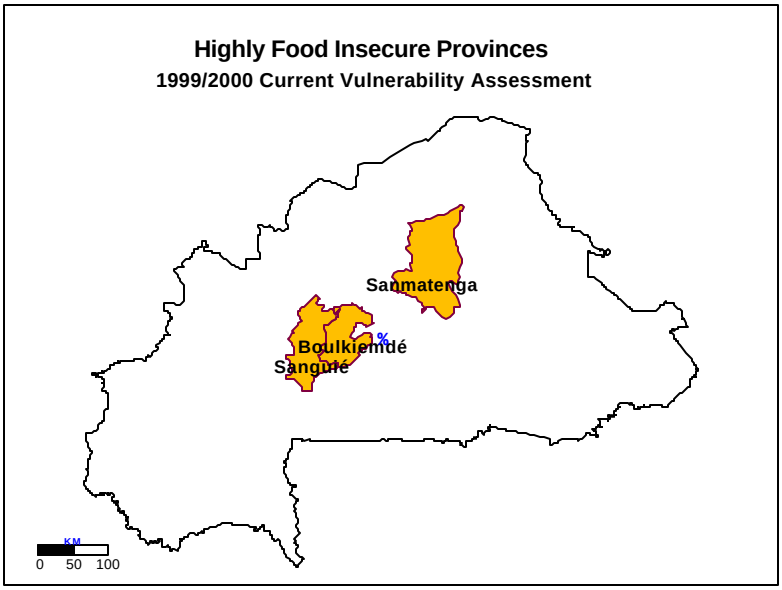


Figure 6
Source: FEWS

First, in Sanmantenga, analysis of sub-national food production showed that supplementary supplies of cereal can be primarily obtained from Kadiogo (the largest food re-distribution center in the country) and surrounding production surplus localities, such as Namentenga and Gnagna. Given adequate availability at the national level and in the major supply areas, food prices are likely to remain within usual seasonal norms. Thus food access in Sanmatenga hinges on whether populations have adequate direct access from own production and purchasing power from crop and livestock product sales and other income generating activities. The majority of people in Sanmatenga are farmers. Farmers in Sanmatenga have had three consecutive years of below average cereal production. Consequently, households have had to intensify secondary income activities and rely more heavily than usual on the market system to meet their needs. They will thus intensify livestock sales and production and sales of artisanal products. Thanks to the residual water that is still available in a number of collection sources, such as lowlands, rivers, streams, and dams, many households will be able to grow legume crops during the off-season for home consumption and sale. Even with the additional contribution of these secondary

activities, average households are unlikely to have the income required to purchase all the food needed from the markets. Consequently, households will have to reduce their consumption or resort to other coping mechanisms. For the poorest households, the situation will be even more difficult. According to statistics released from the National Office of Statistics and Demography (INSD), at least 115,800 people are believed to be below the national poverty line[4] in Sanmatenga.

In Sanguié, the local production deficit can also be met through market transfers from the surplus production localities. In this case, supplementary cereal supplies can be obtained from neighboring Provinces of Kadiogo (a major redistribution center), Sissili (151 percent of needs met), and Mouhoun (185 percent of needs met). With respect to income, however, most households in Sanguié are farmers and they too have been food insecure during the past three years. Farm households in Sanguié do not have any cash crops to sell. In light of these considerations, average households are considered highly food insecure. The poorest households are even worse off. In this Province, at least 42,732 people currently live below the national poverty line.

In Boulkiemdé, most cereal consumption needs can be met through market transfers from production surplus localities, such as Mouhoun, Houet, and Sissili. In spite of adequate cereal availability, Province-level production was so low (half of average levels and only 51 percent of needs met) that most farmers or households are unlikely to be able to afford to purchase all the food needed to meet their needs. This situation stems from the fact that the Province as a whole does not produce any major cash crops that can provide substantial income for farmers and from the fact that cereal production in the Province has been well below average for the past three years. Consequently, average households will probably face serious difficulties in getting access to food. For the poorest families, the situation will be even more difficult. Currently, it is estimated that 64,780 people in this Province live below the national poverty line.

3. Populations in Moderately Food Insecure Areas

Moderately food insecure populations are households or population groups (socio-economic groups) which can meet their consumption needs during the given consumption period only by intensifying their normal coping strategies. In other words, these households are vulnerable to any subsequent shock.

Considering this, the CVA revealed that 8 Provinces fall in this category: Oubritenga, Kouritenga, Oudalan, Passoré, Séno, Soum, Sourou, and Yatenga (figure 7).

[4] In Burkina Faso, those individuals who have cash income of less than 41,000 CFA per capita per year are considered below the poverty line.

In terms of cereal production, the final estimates released by the Ministry of Agriculture showed Oubritenga with 92 percent of needs met; Kouritenga with 97 percent; Oudalan with 81 percent; Passoré with 93 percent; Séno with 66 percent; Soum 72 percent; Sourou 97 percent; and Yatenga with 97 percent. Thus, among these, 5 Provinces have produced enough to meet most of their consumption needs. For these particular Provinces, the remaining gap to be filled is relatively small and therefore should not require any excessive efforts from the populations. In fact, it is worth noting that populations in these Provinces are known to be as good market gardeners as they are regular farmers. Moreover, farmers in Kouritenga and Sourou can produce off-season rice thanks to available dams and good fertile lowlands while most households in Yatenga have sufficient livestock, which they can sell to obtain additional income. Consequently, all these 5 Provinces or localities will probably meet most of their food consumption needs, but average households remain vulnerable to potential food insecurity shocks due to the lack of major production surpluses, cash, or other valuable assets upon which they can draw.

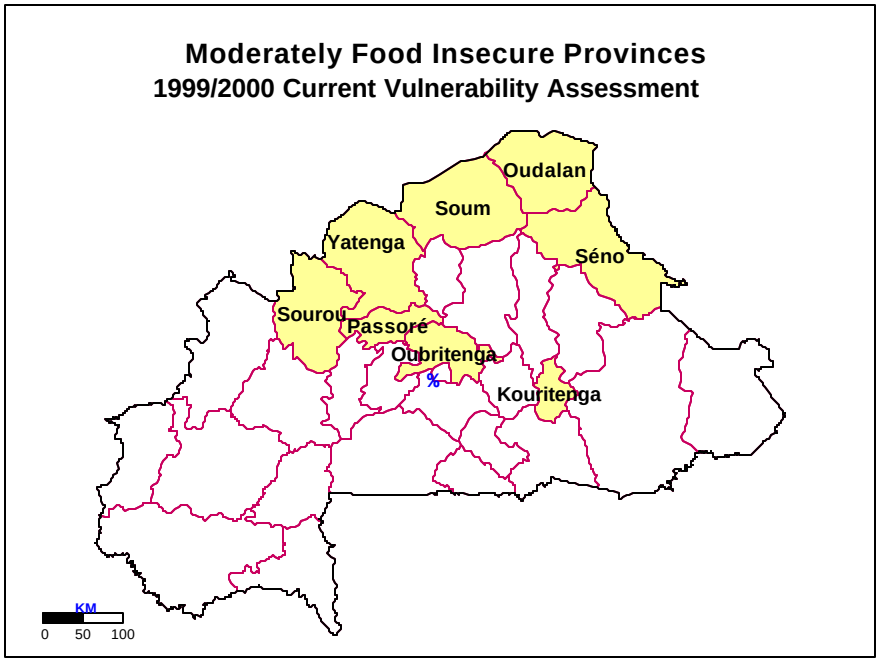


Figure 7
Source: FEWS

The production gap in the remaining three Provinces is quite large, however. Indeed, Séno would require up to 36 percent of its current production level in terms of additional food to meet all the consumption needs this year; Soum, 28 percent; and Oudalan, 19 percent, respectively. But in spite of this situation, it is worth noting that most households or population groups in these 3 Provinces are made of agro-pastoralists who basically depend more on livestock activities (more than 60 percent) for their livelihood than on agriculture. Fortunately, livestock activities have been very successful this year, owing to the good rainfall that resulted in ample water availability and good forage almost everywhere for the livestock. Moreover, terms of trade analysis in February showed that with a sale of only one medium-sized small ruminant (sheep or goat), an average

household in these Provinces can have as many as four to four and half 100-kg bags of millet. In other words, an average family can use the proceeds from selling only one small ruminant to secure adequate food for several months. With a bigger animal, such as a cow or an ox, the terms of trade are even better and as many as ten 100-kg bags of millet can be secured. Finally, due to the availability of ample water this year in many localities, many households are reportedly carrying out already some off-season crop production activities. Consequently, in the Sahelian Provinces of Séno, Soum, and Oudalan, average households should be able to meet their normal consumption needs. Nevertheless, households would still remain vulnerable to potential shocks should prices of cereal soar up well above average or should diseases or similar problems significantly affect their livestock raising activities.

4. Populations in Food Secure Areas

Food-secure populations are those household or socio-economic groups that can meet their consumption needs during the given consumption period using income derived from strategies that do not compromise their future food security.

In light of these considerations, this CVA revealed that 19 Provinces are food secure: Bam, Bazega, Boulgou, Bougouriba, Comoe, Ganzourogou, Gnagan, Gourma, Houet, Kadiogo, Kenedougou, Kossi, Mouhoun, Nahouri, Namentenga, Poni, Sissili, Tapoa, and Zoundweogo (figure 8).

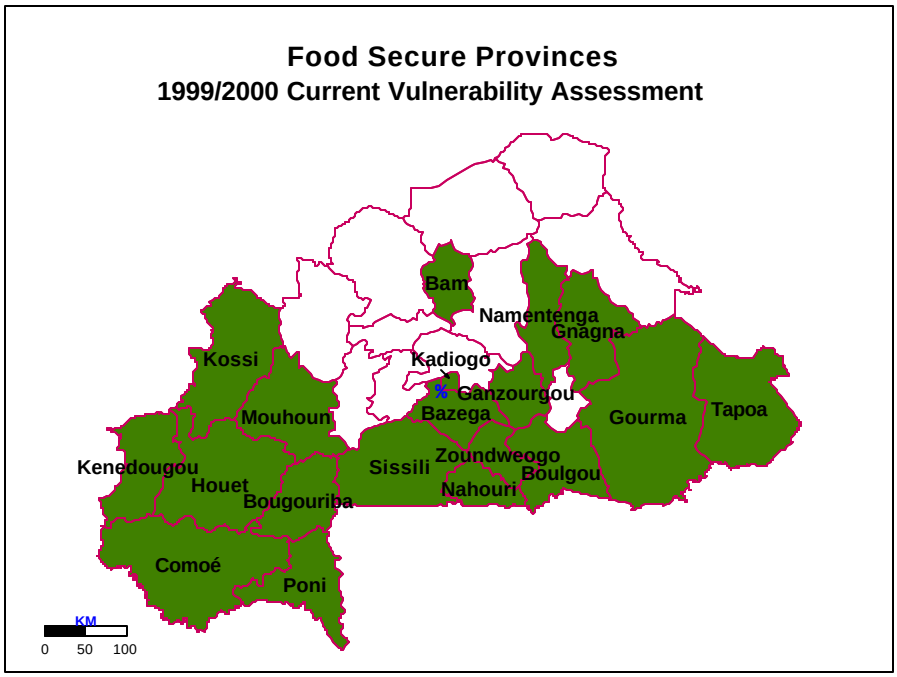


Figure 8
Source: FEWS

In most of these Provinces, average households are enjoying large production surpluses this year (table 4) and therefore could sell them to meet most of their other needs. In addition, in these Provinces, additional sources of income such as cash crops (e.g., cotton), market gardening products, horticultural crops, and fish are reported this year to be widely available. Moreover, in Provinces like Kadiogo and Houet, a good proportion of the populations is made of urban dwellers who have other sources of income from either doing petty trade or earning wages as civil servants or laborers in Ouagadougou and Bobo Dialasso.

Taking all these factors into consideration and in view of the fact that most of these Provinces have in most cases always been in a production surplus situation, the average household in these localities is considered food secure.

E. Caveats and Uncertainties

The conclusions reached in this CVA relied heavily on comparisons of percentage of needs met through own cereal production with average levels to establish whether populations have suffered losses in direct food access compared to average, and if so, whether any gap between direct food access and needs can be met through market purchases financed with income from income generating activities. However, because of lack of data on income from sales of crops, livestock, petty trade, garden produce, artisanal products, and others, the analysis of these income sources was essentially qualitative in nature.

Another limitation of the analysis is that it was restricted to second level administrative unit (Province), which remain quite broad and heterogeneous. For a finer analysis for instance, the discussion on the food access conditions should have been carried out at the third administrative level (Department). Nevertheless, owing to the lack of data at that level, the analysis had to be restricted to the Province level.

Table 5. Populations in Food Insecure Areas of Burkina Faso in 1999/900

Region/Province	Socio-economic Group	Highly	Moderately
SAHEL			
Séno	Agro-pastoralists		335,058
Soum	Agropastoralists		268,508
Oudalan	Agro-pastoralists		151,831
CENTER-NORTH			
Sanmatenga	Farmers	480,968	
CENTER			
Oubritenga	Farmers		336,421
CENTER-EAST			
Kouritenga	Farmers		276,452
CENTER-WEST			
Boulkiemdé	Farmers	462,639	
Sanguié	Farmers	274,747	
MOUHOUN			
Sourou			386,505
NORTH			
Yatenga	Agro-pastoralist		641,628
Passoré	Farmers		266,584
Total		1,218,354	2,662,987

Note: The table shows the entire population of affected socio-economic groups at the given administrative level. This does not imply that the entire population of those groups is food insecure (see box on FEWS Food Security Categories).

IV. Conclusions and Actions

Of the 30 Provinces under consideration, 19 were found to be food secure. On the other hand, three and eight Provinces were identified as highly and moderately food insecure, respectively (figure 9 and Table 5).

Currently, no specific interventions have been planned to respond to food needs in the highly food-insecure Provinces of Boulkiemdé, Sanguié or Sanmatenga. However, the Government is encouraging populations in these localities to take advantage of water availability to intensify livestock and off-season gardening and cropping activities.

Over the course of the consumption year, FEWS will be involved in the following activities to monitor the evolving food security situation and plan interventions, if necessary:

- Undertaking field trips/visits to update the food insecurity situation of the population groups or localities under consideration;
- Assisting to determine type, amount, and frequency of food assistance needed, if any, in food-insecure Provinces or localities.

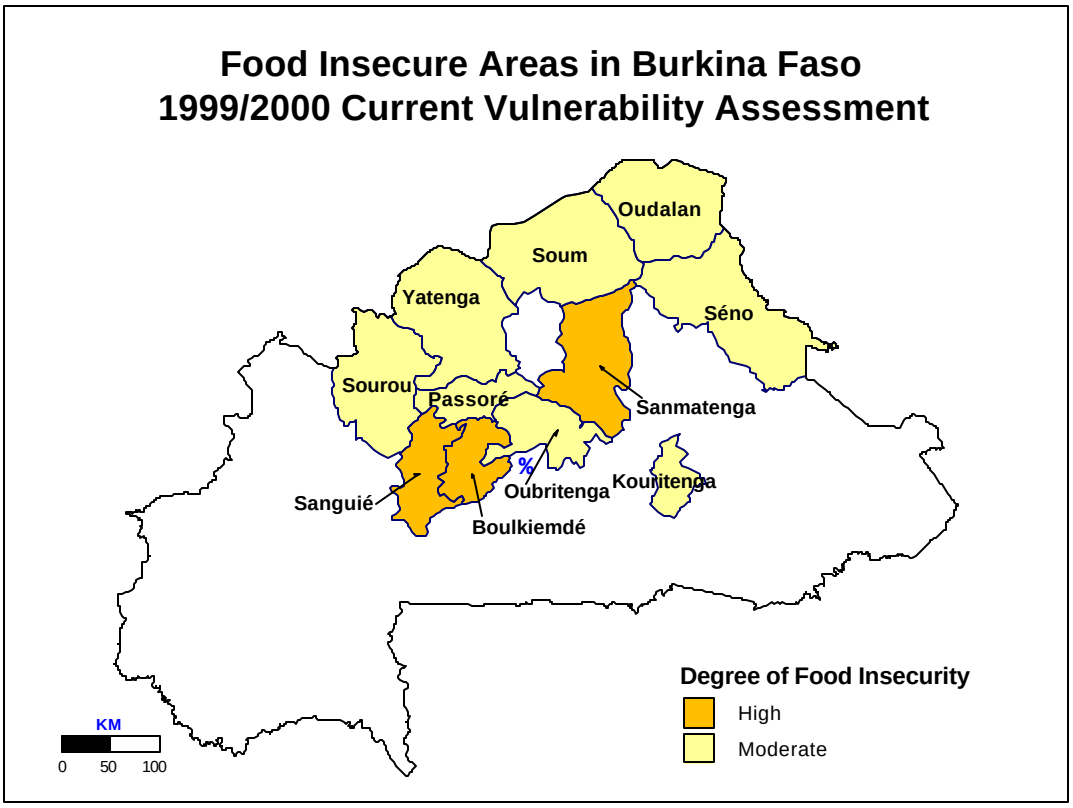


Figure 9
Source: FEWS

Appendices

A. Final Cereal Balance for 1998/99

B. Summary Table of Food Access Indicators

A. Final Cereal Balance for Burkina Faso for the 1998/99 Consumption Year

	Rice	Wheat	Traditional Cereals	Total
Population Through 04/30/99				10,955,396
I. Availability (MT)	69,624	1,404	2,200,534	2,271,562
Gross production (MT)	88,998	0	2,567,758	2,656,756
Net Production (MT)	48,949	0	2,182,594	2,231,543
Initial Stock as 11/01/98 (MT)	20,675	1,404	17,940	40,019
* Farmer (MT)	0	0	0	0
* Other (MT)	20,675	1,404	17,940	40,019
II. Needs (MT)	187,227	81,475	1,937,756	2,206,458
Human Consumption (MT)	177,477	75,592	1,828,456	2,081,525
Consumption per capita (kg)	16.2	6.9	166.9	190
Final stock as 10/31/99 (MT)	9,750	5,883	109,300	124,933
* Farmer (MT)	0	0	69,880	69,880
* Other (MT)	9,750	5,883	39,420	55,053
III. Gross Surplus (+) or Deficit(-) (MT)	-117,603	-80,071	262,778	65,104
IV. Imports/Exports (MT)	118,042	79,609	21,627	219,278
Imports	118,042	79,609	21,627	219,278
Commercial (MT)	107,972	72,387	11,232	191,591
Food Aid import (MT)	10,070	7,222	10,395	27,687
Exports (MT)	0	0	0	0
V. Net Surplus (+) or Deficit (-) (MT)	439	-462	284,405	284,382
VI. Per Capita Availability (kg)	17.1	7.4	202.8	227

Source: Ministry of Agriculture; CT/CCT

Appendix C: Summary Table of Food Access Indicators (See below for Table Legend)

			Coping Ability		Direct Access	Direct Access	Direct Access			Indirect Access		
					Own prod.	Own prod.	Own Food Production			*Market Availability and Prices*		
DRA/CRPA	Province	Current Food Security Status 1999-00	Current Food Security Status 1998/99	Food Security Status 1997/98	Needs Met Through Own Cereal Production 1997-98 (%)	Needs Met Through Own Cereal Production 1998-99 (%)	Needs Met Through Own Cereal Production 1999-00 (%)	*Needs Met Compared to Average (-3,-2,-1,0,1,2,3)*	Carry Over Stocks Relative to Average (-2,-1,0,1,2)	*Dependence on Market Purchases in 1999-00 (%)*	Market Availability (-2,-1,0,1,2)	Harvest Cereal Prices Relative to Avg
CENTER	GANZOURGOU	FS	FS	MFIS	99	49.5	122	*2*	-2	*0*	*2*	
CENTER	KADIOGO	FS	FS	FS	2	0.95	1	*0*	-2	*99*	*2*	
CENTER	OUBRITENGA	MFIS	HFIS	MFIS	89	91.6	70	*-2*	-2	*30*	*2*	
CENTER-NORTH	BAM	FS	HFIS	MFIS	85	114.5	78	*-2*	2	*22*	*0*	
CENTER-NORTH	NAMENTENGA	FS	MFIS	MFIS	127	164.21	118	*0*	2	*0*	*3*	
CENTER-NORTH	SANMATENGA	HFIS	HFIS	MFIS	71	97.5	70	*-2*	0	*30*	*0*	
CENTER-WEST	BOULKIEMDE	HFIS	HFIS	MFIS	73	63.94	51	*-3*	-2	*49*	*0*	
CENTER-WEST	SANGUIE	HFIS	HFIS	MFIS	97	71.49	46	*-3*	-2	*54*	*0*	
CENTER-WEST	SISSILI	FS	FS	FS	132	129.74	119	*-2*	2	*0*	*2*	
CENTER-SOUTH	BAZEGA	FS	FS	FS	104	96.28	93	*0*	0	*7*	*2*	
CENTER-SOUTH	NAHOURI	FS	FS	FS	66	68.95	72	*2*	-2	*28*	*2*	
CENTER-SOUTH	ZOUNDWEOGO	FS	FS	MFIS	130	138.61	114	*-2*	2	*0*	*2*	
SAHEL	OUDALAN	MFIS	FS	MFIS	67	130.4	141	*2*	2	*0*	*2*	
SAHEL	SENO	MFIS	MFIS	HFIS	61	96.97	72	*-2*	0	*28*	*0*	

			Coping Ability		Direct Access	Direct Access	Direct Access			Indirect Access		
					Own prod.	Own prod.	Own Food Production			*Market Availability and Prices*		
DRA/CRPA	Province	Current Food Security Status 1999-00	Current Food Security Status 1998/99	Food Security Status 1997/98	Needs Met Through Own Cereal Production 1997-98 (%)	Needs Met Through Own Cereal Production 1998-99 (%)	Needs Met Through Own Cereal Production 1999-00 (%)	*Needs Met Compared to Average (-3,-2,-1,0,1,2,3)*	Carry Over Stocks Relative to Average (-2,-1,0,1,2)	*Dependence on Market Purchases in 1999-00 (%)*	Market Availability (-2,-1,0,1,2)	Harvest Cereal Prices Relative to Avg
SAHEL	SOUM	MFIS	MFIS	MFIS	73	123.72	107	*2*	2	*0*	*2*	
MOUHOUN	KOSSI	FS	FS	FS	211	186.42	196	*0*	2	*0*	*2*	
MOUHOUN	MOUHOUN	FS	FS	FS	168	147.63	152	*0*	2	*0*	*2*	
MOUHOUN	SOUROU	MFIS	MFIS	FS	158	119.36	79	*-3*	2	*21*	*2*	
EAST	GNAGNA	FS	FS	FS	134	182.78	125	*-2*	2	*0*	*2*	
EAST	GOURMA	FS	MFIS	FS	106	131.61	105	*0*	2	*0*	*2*	
EAST	TAPOA	FS	MFIS	FS	189	115.93	122	*-3*	2	*0*	*2*	
CENTER-EAST	BOULGOU	FS	MFIS	FS	124	88.06	96	*-1*	-2	*4*	*2*	
CENTER-EAST	KOURITENGA	MFIS	MFIS	MFIS	85	100.02	88	*-2*	0	*12*	*1*	
NORTH	PASSORE	MSIS	HFIS	MFIS	96	98.5	83	*1*	0	*17*	*0*	
NORTH	YATENGA	MSIS	MFIS	MFIS	97	134.24	98	*-2*	3	*2*	*2*	
SOUTHWEST	BOUGOURIBA	FS	FS		152	112.35	91	*-3*	2	*9*	*2*	
SOUTHWEST	PONI	FS	FS	FS	97	167.95	160	*2*	2	*0*	*2*	
HAUTS BASSINS	HOUET	FS	FS	FS	91	93.18	92	*0*	0	*8*	*2*	
HAUTS BASSINS	KENEDOUGOU	FS	FS	FS	150	174.69	225	*3*	2	*0*	*2*	
COMOE	COMOE	FS	FS	FS	102	97.43	122	*2*	0	*0*	*2*	

Appendix C: Summary Table of Food Access Indicators, cont.

		Indicators of Income									
DRA/CRPA	Province	Type of Cash Crop Income 0-None 1-Niebe 2-Peanuts 3-Cotton 4-Onion 5-Other	Importance to Income 0-None 1-Slight 2-Moderate 3-High	Production Outcome Relative to Average (-2,-1,0,1,2)	Terms of Trade Cash Crop for Millet Relative to Average (-2,-1,0,1,2)	Livestock Ownership per capita	Importance to Income 0-None 1-Slight 2-Moderate 3-High	Livestock Production Relative to Average (-2,-1,0,1,2)	Terms of Trade Goat for Millet Relative to Average (-2,-1,0,1,2)	Petty Trade Importance to Income 0-None 1-Slight 2-Moderate 3-High	Remittance Income Importance to Income 0-None 1-Slight 2-Moderate 3-High
CENTER	GANZOURGOU	3 2 5	2 1 1		0						
CENTER	KADIOGO	2	0		0						
CENTER	OUBRITENGA	3 2 5	0 1 0		0						
CENTER-NORTH	BAM	3 2 5	0		0						
CENTER-NORTH	NAMENTENGA	3 2 5	0		0						
CENTER-NORTH	SANMATENGA	3 2 5	0		0						
CENTER-WEST	BOULKIEMDE	3 2 5	0		0						
CENTER-WEST	SANGUIE	3 2	0		0						
CENTER-WEST	SISSILI	3 2 5	2		0						
CENTER-SOUTH	BAZEGA	3 2 5	0		0						

		Indicators of Income									
DRA/CRPA	Province	Type of Cash Crop Income 0-None 1-Niebe 2-Peanuts 3-Cotton 4-Onion 5-Other	Importance to Income 0-None 1-Slight 2-Moderate 3-High	Production Outcome Relative to Average (-2,-1,0,1,2)	Terms of Trade Cash Crop for Millet Relative to Average (-2,-1,0,1,2)	Livestock Ownership per capita	Importance to Income 0-None 1-Slight 2-Moderate 3-High	Livestock Production Relative to Average (-2,-1,0,1,2)	Terms of Trade Goat for Millet Relative to Average (-2,-1,0,1,2)	Petty Trade Importance to Income 0-None 1-Slight 2-Moderate 3-High	Remittance Income Importance to Income 0-None 1-Slight 2-Moderate 3-High
CENTER-SOUTH	NAHOURI	3 2 5	1		1						
CENTER-SOUTH	ZOUNDWEOGO	3 2 5	0		0						
SAHEL	OUDALAN	5	0		0						
SAHEL	SENO	2 5	0		0						
SAHEL	SOUM	2 5	0		0						
MOUHOUN	KOSSI	3 2 5	3		2						
MOUHOUN	MOUHOUN	3 2 5	3		0						
MOUHOUN	SOUROU	3 2 5	0		0						
EAST	GNAGNA	3 2 5	2		2						
EAST	GOURMA	3 2 5	2		2						
EAST	TAPOA	3 2	2		2						

		Indicators of Income									
DRA/CRPA	Province	Type of Cash Crop Income 0-None 1-Niebe 2-Peanuts 3-Cotton 4-Onion 5-Other	Importance to Income 0-None 1-Slight 2-Moderate 3-High	Production Outcome Relative to Average (-2,-1,0,1,2)	Terms of Trade Cash Crop for Millet Relative to Average (-2,-1,0,1,2)	Livestock Ownership per capita	Importance to Income 0-None 1-Slight 2-Moderate 3-High	Livestock Production Relative to Average (-2,-1,0,1,2)	Terms of Trade Goat for Millet Relative to Average (-2,-1,0,1,2)	Petty Trade Importance to Income 0-None 1-Slight 2-Moderate 3-High	Remittance Income Importance to Income 0-None 1-Slight 2-Moderate 3-High
		5									
CENTER-EAST	BOULGOU	3 2 5	2		2						
CENTER-EAST	KOURITENGA	3 2 5	0		0						
NORTH	PASSORE	3 2 5	0		0						
NORTH	YATENGA	3 2 5	0		0						
SOUTHWEST	BOUGOURIBA	3 2 5	3		3						
SOUTHWEST	PONI	3 2 5	0		0						
HAUTS BASSINS	HOUET	3 2 5	3		3						
HAUTS BASSINS	KENEDOUGOU	3 2 5	3		3						
COMOE	COMOE	3 2 5	3		3						

Legend:
-3 very much less than average
-2 much less than average
-1 less than average
0 average
+1 above average
+2 much above average
+3 and above: very much above average